Multipurpose Internet mail Extensions (MIME)

> A browser needs some way of determining the format of a document it receives from a web server.

> Without knowing the form of the document, the browser would not be able to render it, because different document formats require different rendering s/w.

> The forms of these documents are specified with MIME

Type specifications:

> These documents could contain various kinds of text, video data or sound data.

> A web server attaches a MIME format specification to the begining of the document that is about to provide to a browser.

> When the browser receives the document from a web server, it uses the included MIME format specification to determine what to do with the document

> If the content is text, for example, the MIME code tells the browser that it is text ~~& odio~~

> If the content is sound, the MIME code tells the browser that it is sound and then gives the particular representation of sound so the browser can choose a program to which it has access to produce the transmitted sound

> MIME specifications have the following form:

type / subtype

> The most common MIME types are text, image & video.
> The most common text subtypes are plain and html.
> Some common image subtypes are gif and jpeg.
> Some common video subtypes are mpeg and quicktime.
> A list of MIME specifications is stored in the configuration files of every web server.
> for Ex, .html tells the server that it should attach text/html to the document before sending it to the requesting browser.
> Browsers also maintain a conversion table for looking up the type of document by its file name extension.
> However, this table is used only when the server doesn't specify MIME type., which may be the case with some older servers.
> In all other cases, the browser gets the document type from MIME provided by server.

Experimental document types:

> Experimental subtypes are sometimes used.
> The name of an Experimental subtype begins with x- as in video/x-msvideo.

> A web provider must supply a program that the browser can call when it needs to display the content.
> These programs either are external to the browser, in which case they are called helper applications, or code modules that are inserted into the browser, in which case they are called plug-ins.
> Each browser has a set of mime specifications it can handle. All can deal with text/plain and text/html.
> Sometimes a particular browser cannot handle a specific document type, these cases are handled by helpers or plugins
> If the browser doesnot have an application or plug-in that it needs, an error msg is displayed.

Hypertext Transfer Protocol (HTTP)

> All web communications use this protocol
> Current version is 1.1
> HTTP consists of two phases
  ↳ request
  ↳ response.
> Each HTTP communication b/w browser & server consists of two parts: header & a body.
> The header contains information about the communication and body contains the data of the communication

① Request phase:

The general form of an HTTP request is as follows:

1. HTTP method Domain part of URL HTTP version
2. Header fields
3. Blank line
4. message body.

Ex: Example of 1st line of HTTP request

GET /storefront.html HTTP/1.1

> The most commonly used HTTP methods are
GET → Returns the contents of the specified document
HEAD → Returns the header info for the specified document
POST → Sends form data from browser to server
PUT → Replaces the specified document with enclosed data
DELETE → Deletes the specified document

> GET & POST are most commonly used methods.
> GET is used to request data from a specified resource
> POST is to send form data from a browser to server, along with a request to execute a program on the server

> GET is to get data from server.
> PUT is used to send data to a server to create/update a resource. (calling same PUT always produce same result, but calling POST repeatedly, creates same resource multiple times)

ii) The format of a header field is field name followed by a colon & the value of the field.

there are 4 categories of header.

a) General : for general information such as date
b) Request : included in request headers
c) Response : for response headers
c) Entity : used in both request & response headers

One common request field is is .accept, which specifies a preference of the browser for the MIME type of the requested document.

> more than one accept field can be specified

Ex: Accept : text/plain
Accept : text/html
Accept : image/gif.

> A wild card character, the asterisk (*) can be used to specify, MIME type can be anything

Accept : text/*.

> The Host : host name request field gives names of host.

> If the request has a body, the length of that body must be given with a content_length field which gives the length of the response.

c) The header of a request must be followed by a blank line, which is used to separate the header from body of the request

Ex: HTTP command

GET | www | respond.html HTTP/1.1

(2) The Response phase:

The general form of HTTP response is

1. Status Line
2. Response header fields
3. Blank Line
4. Response body.

> The status line includes HTTP version used, a three digit status code for the response, and a short textual explanation of status code

Ex: HTTP/1.1 200 OK

period of a satellite in circular
4T
2) T/4
3) 8T
particles of masses 4 kg and 8 kg are kept at x = - 2m and x = 4m respectively. Then the net gravitational force a
4) G/4
The gravitational force exerted by this system on

> The status codes begin with 1, 2, 3, 4 or 5.

> first digits of HTTP status codes.

first digit	category
1	informational
2	success
3	Redirection
4	client Error
5	Server Error.

request:

GET / ~user1 / respond.html HTTP/1.1

Host: blanc.uccs.edu

response:

HTTP/1.1 200 O.K

Date: sat, 25 July

Server: Apache/2.2.3

Accept ranges: bytes

Content-length: 364

Content-type: text/html